

Atty. Docket No. 388.0002
Amendment Dated April 5, 2006
Reply to Office action of March 8, 2006
Appl. No. 10/758,194

AMENDMENTS TO THE CLAIMS

This listing replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A conveyor system for moving solid objects from a first height to a second height, comprising:
 - (a) an inlet at a first select position and disposed at said first height;
 - (b) an outlet at a second select position which is different from the first select position and disposed at said second height;
 - (c) a generally curvilinear transportation path disposed between said first select position and said second select position and in conveying communication from proximate the inlet to proximate the outlet where said curvilinear path is defined by a first generally laterally disposed segment, a second arcuate segment including a vertical component extending between said first and second heights, and a third generally laterally disposed segment substantially parallel to and spaced from said first segment;
 - (d) a first endless conveying element to transport said solid objects having a contact surface defining a portion of said curvilinear transportation path;
 - (e) a main cylindrical guide element ~~of relatively dimensionally larger than one of said objects~~ having a diameter generally corresponding to a simple fraction of the difference between the first and second heights including a generally arcuate perimetric surface dimensioned for minimizing bending force delineating said second arcuate segment of said curvilinear transportation path; and

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(f) a second endless conveying element that positions and retains at least one of said objects on the contact surface along said second arcuate segment of said the curvilinear transportation path;

where said first and second conveying elements overlap along said second segment and are driven by said cylindrical guide element and where said at least one object is inverted as a result of travel between said first and third segments.

2. (Previously Presented) The conveyor system of claim 1, wherein said second segment of the transportation path has a vertically directed component corresponding to the diameter of said cylindrical guide element and $1/x$ of the difference between the first and second heights where $x=1, 2$ or 3 .

3. (Canceled)

4. (Canceled)

5. (Previously Presented) The conveyor system of claim 1, where said inlet and said outlet are separated by a select vertical distance, said inlet facing a first direction and said outlet facing a second, opposite direction, and where said curvilinear transportation path is serpentine, said conveyor system further comprising a second main cylindrical guide element for directing the first and second endless conveying elements along said serpentine transportation path.

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6. (Previously Presented) The conveyor system of claim 5, wherein said first and said second main guide elements are separated by a select distance, wherein said main guide elements have substantially equivalent diameters, and wherein said vertical distance separating said inlet and outlet substantially corresponds to the sum of diameters of the first and second main cylindrical guide elements and the distance of separation between the first and second main guide elements.

7. (Previously Presented) The conveyor system of claim 6, wherein the first main guide element and second main guide element cooperate to maintain contact between the first and second endless conveying elements through at least part of said first and third lateral segments.

8. (Canceled)

9. (Canceled)

10. (Previously Presented) The conveyor system of claim 6, wherein the diameter of the main guide element is a roller sufficiently large relative to at least one of said objects and approximately half said select distance to minimize bending force to on said at least one object to avoid damaging the object.

11. (Previously Presented) The conveyor system of claim 5, further comprising a drive mechanism for driving the first and second cylindrical guide elements.

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12. (Previously Presented) The conveyor system of claim 11, wherein the drive mechanism is configured to drive the second cylindrical main guide element at approximately the same speed as the first endless conveying element.

13. (Canceled)

14. (Previously Presented) The conveyor system of claim 1, wherein the first and second endless conveying elements are elastic and sterilizable and formed from a material selected from the group consisting of belts, webs and cables.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Previously Presented) The method of using a conveyor system of claim 1 comprising the steps of conveying the at least one object between said inlet and said outlet.

19. (Canceled)

20. (Previously Presented) A conveyor for food products, comprising:

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- a) means for receiving at least one food product in a select orientation, said receiving means being located at a first select height;
- b) means for dispensing said at least one food product in said select orientation said dispensing means being located at a second select height that is different from said first select height;
- c) means for establishing a curvilinear transport path between said receiving means and said dispensing means;
- d) means for conveying said at least one food product maintaining said select orientation between said means for receiving and said means for dispensing; and
- e) means for securing said at least one food product at least in respect to said curvilinear transport path, said means for securing overlapping said means for conveying along the curvilinear transport path and being driven by said means for establishing a curvilinear transport path.

21. (Currently Amended) A conveyor system for conveying solid objects of limited structural strength generally having a substantially uniform size, from a first height to a second height comprising:

a cylindrical roller of a select diameter generally corresponding to a whole number fraction of the difference between the first and the second heights ~~and having substantially greater than the size of the solid objects~~, said roller defining a generally continuous and smooth arcuate annular surface having a select curvature;

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a first endless conveyor element disposed between an inlet and an outlet and traveling over a path including a generally semicircular portion of said annular surface where said first endless conveyor element is driven by said roller; and

a second endless conveyor element dimensioned to overlie said first endless conveyor at least substantially along said generally semicircular portion, said second endless conveyor element being driven with said first endless conveyor, where said second conveyor positionally secures and positionally stabilizes the at least a select one of said solid objects disposed between said first endless conveyor at said overlying second endless conveyor;

22. (Previously Presented) The conveyor system of claim 21 where the solid objects are food products, the cylindrical rollers are composed of sterilizable plastic and the conveyors are formed from a material selected from the group consisting of belts, webs, and cables.

23. (Previously Presented) The conveyor system of claim 22 where the food products are patties of ground meat and further including a second cylindrical roller disposed proximate to and above the cylinder roller where said first and second conveyor elements establish a serpentine pathway between said inlet and output.

24. (Previously Presented) The conveyor system of claim 21 where said at least one of said solid objects is inverted between said inlet and outlet.